

December 18, 1995; and WIPO Publication WO 00/33239 published June 8, 2000;] and PCT/US00/15624 filed June 7, 2000, published as WO 00/75856 A1; each said application being commonly owned by Assignee, Metrologic Instruments, Inc., of Blackwood, New Jersey, and incorporated herein by reference as if fully set forth herein.

AMENDMENT OF THE CLAIMS TO INVENTION

Please cancel Claims 1-32 without prejudice or disclaimer and add Claims 33-37 as follows:

33. In a planar light illumination and imaging (PLIIM) system, a planar light illumination module (PLIM) of compact construction for producing a planar laser illumination beam (PLIB) which emanates substantially within a single plane along the direction of beam propagation towards an object to be optically illuminated and imaged, said PLIM comprising:

a module housing having an axial extent, first and second end portions, a central bore formed along said axial extent, and a recess integrally formed in said second end portion;

a visible laser diode (VLD) mounted along said bore at said first end portion of said module housing, for producing a laser beam generally along said axial extent;

a focusing lens mounted along said bore between said first and second end portions, for focusing said laser beam to a predetermined focal point; and

a laser beam expansion element mounted within said recess at said second end portion of said module housing, and expanding said laser beam along a predetermined direction and producing a substantially planar laser illumination beam from said beam expansion component.

34. The PLIM of claim 33, wherein said beam expansion component comprises a cylindrical lens element mounted within said recess.

35. The PLIM of claim 33, wherein said focusing element is micro-oscillated so that said planar laser illumination beam is micro-oscillated laterally along its planar extent.

36. The PLIIM of Claim 33, wherein said recess has a wedge-like geometry.

37. In a PLIIM system, a planar laser illumination module (PLIM), said PLIM comprising:
- a laser diode for producing a laser beam;
 - a focusing lens for focusing said laser beam to its minimum beam width at a point which is the farthest distance at which said PLIIM based system is designed to capture images, and
 - a cylindrical lens element for expanding (i.e. spreading out) said laser beam along the direction of beam propagation so that a substantially planar laser illumination beam (PLIB) is produced, which is characterized by a plane of propagation that is coplanar with the direction of beam propagation.

AMENDMENT OF THE ABSTRACT:

Please amend the Abstract as follows:

--In a planar light illumination and imaging (PLIIM) system, a planar light illumination module (PLIM) of compact construction produces a planar laser illumination beam (PLIB) which emanates substantially within a single plane along the direction of beam propagation towards an object to be optically illuminated and imaged. The PLIM comprises a module housing which has an axial extent, first and second end portions, a central bore formed along the axial extent, and a recess integrally formed in the second end portion. A visible laser diode (VLD) is mounted along the bore at the first end portion of the module housing, for producing a laser beam generally along the axial extent. A focusing lens is mounted along the bore between the first and second end portions, for focusing the laser beam to a predetermined focal point. A laser beam expansion element is mounted within the recess at the second end portion of the module housing, and expanding the laser beam along a predetermined direction and producing a substantially planar laser illumination beam from the beam expansion component.--

REQUIREMENT UNDER 37 C.F.R. 1.121

As required under 37 C.F.R. 1.121, a clean version of the first paragraph of Page 1 is as follows:

This is a Continuation of copending U.S. Application No. 09/721,885 filed September 17, 2001, which is a Continuation-in-Part of copending Application Serial No. 09/327,756 filed June 7, 1999, and PCT/US00/15624 filed June 7, 2000, published as WO 00/75856 A1; each said application being commonly owned by Assignee, Metrologic Instruments, Inc., of Blackwood, New Jersey, and incorporated herein by reference as if fully set forth herein.

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Also required under 37 C.F.R. 1.121, a clean set of the amended Claims is as follows:

33. A planar light illumination module (PLIM) of compact construction for producing a planar laser illumination beam (PLIB) which emanates substantially within a single plane along the direction of beam propagation towards an object to be optically illuminated, said PLIM comprising:

a module housing having an axial extent, first and second end portions, a central bore formed along said axial extent, and a wedge-like recess integrally formed in said second end portion;

a visible laser diode (VLD) mounted along said bore at said first end portion of said module housing, for producing a laser beam generally along said axial extent;

a focusing lens mounted along said bore between said first and second end portions, for focusing said laser beam to a predetermined focal point; and

a laser beam expansion element mounted within said wedge-like recess at said second end portion of said module housing, and expanding said laser beam along a predetermined direction and producing a substantially planar laser illumination beam from said beam expansion component.

34. The PLIM of claim 32, wherein said beam expansion component comprises a cylindrical lens element mounted within said wedge-like recess.

35. The PLIM of claim 32, wherein said focusing element is micro-oscillated so that said planar laser illumination beam is micro-oscillated laterally along its planar extent.

36. The PLIIM of Claim 33, wherein said recess has a wedge-like geometry.

37. In a PLIIM system, a planar laser illumination module (PLIM), said PLIM comprising:
a laser diode for producing a laser beam;

a focusing lens for focusing said laser beam to its minimum beam width at a point which is the farthest distance at which said PLIIM based system is designed to capture images, and

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a cylindrical lens element for expanding (i.e. spreading out) said laser beam along the direction of beam propagation so that a substantially planar laser illumination beam (PLIB) is produced, which is characterized by a plane of propagation that is coplanar with the direction of beam propagation.